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EXAMINER

STERRETT, JONATHAN G

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/904,528		OKAMOTO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jonathan G. Sterrett		3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 7-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 24-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Summary*

1. **Claims 1-6 and 24-36** are pending in the application. Claims 7-23 stand as withdrawn from consideration.

This action is responsive to the election of May 2, 3006. The examiner notes that these claims were elected with traverse.

The applicant argues that the restriction is improper because the search of the various inventions claimed are not different and do not represent a search burden for the examiner.

The examiner respectfully disagrees.

The examiner notes that in the first Office Action, several issues with the language of specification were pointed out. It is a matter of record that the application claims priority to a foreign invention. Furthermore, the language of the claims contained several 35 USC 112 2nd rejections, which were further reflective of the unclearly worded specification and claims. The application of the art in the first rejection was made in light of the numerous 112 2<sup>nd</sup> rejections of the claim.

It is the examiner's position that the clarification of the claims made by the numerous amendments to comply with the 112 2<sup>nd</sup> requirements resulted in a clarification of the inventions claimed by the previously described groups. The fact that a prior art search has been done on the first office action is irrelevant, given the fact that 3 inventions are contained in the instant application.

For example, Group II (Claims 7-12, 13 and 14) describes the

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distinguishing between purchasers and non-purchasers using image recognition.

This invention is classified in Class 382 subclass 418. Group 1 (elected claims 1-6, 24-36) provides for correlation between a customer and the customer's purchased item information. Determining whether a person in a store is a purchaser or a non-purchaser using camera systems is an entirely different invention in comparison to correlating a customer with their purchased item using image information. The software algorithm used to distinguish between purchasers and non-purchasers in a store is solving an entirely different image science problem than is one that correlates a customer with their purchased item. Therefore the restriction of the invention is proper.

Although inventions may be classified in the same class, the examiner would point out that a search would be made across the entire US patent database containing keywords that identify salient features of the different inventions. This is done because, for example, Class 345, dealing with displays, provides for inventions where the art is analogous because inventors are solving similar problems. The examiner would also point out that aside from a keyword search in the existing patent database, there are also mandatory non-patent literature (NPL) databases within Dialog that are required to be searched. Additionally, depending on the claims and the examiner's discretion, there are other searches that may be made within ProQuest and also using Google. Since the potential areas for searching is so broad, the different inventions as claimed are, in fact, a search burden for the examiner.

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Finally, the examiner would point out that the invention claims priority to three (3) different Japanese patent applications.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 32-34** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **Claim 32**, the limitation cites a camera including a first camera and a second camera. Since only one camera is being claimed in the parent claim (claim 24), the modification of this limitation into two cameras makes the claim indefinite, since it is not clear how one camera in Claim 24 becomes two cameras in Claim 32.

In further regards to Claim 32, the claim describes two separate cameras. A first camera obtains an image of a customer who has entered a shop. A second camera obtains an image from a customer who has purchased an item. The last.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 5, 6, 24, 25, 26, 28, 30** are rejected under 35 U.S.C. 102(e) as being anticipated by Pong US 6,237,647 (hereinafter **Pong**).

Regarding **Claim 24**, Pong discloses:

**a camera obtaining image information of a customer in a shop  
to generate an image signal indicating an image of said customer;**

column 2 line 44-46, the system contains a vision system (i.e. with a camera that obtains an image) to perform facial identification of the customer (i.e. the image signal of the customer's face is generated to indicate an image of that customer).

**a first processor receiving said image signal to determine an  
attribute of said customer on the basis of said image;**

column 2 line 44-46, since the system is performing facial recognition, it is determining an attribute of the customer (i.e. their identity) on the basis of the facial recognition. See Figure 2 #21 & #30.

**a first input unit receiving information of an item purchased in the  
shop by said customer; and**

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column 4 line 13-17, the database receives the information of the item purchases (i.e. fuel) purchased in the refueling shop by the customer.

**a first storing section storing said information of said item received and said attribute of said customer determined, said information and said attribute being correlated with each other.**

Column 2 line 44-46, the vision system confirms the facial identity of the system with the transponder information when the person is driving up to refill their car.

Column 4 line 13-15, Once the person has finished refueling, the database stores the billing information for the transaction of fuel purchased by the customer. Since the system is performing the billing function, it correlates the identity of the customer (based on their image) with the amount of fuel they purchased. See Figure 2 #28.

**Claims 1, 5 and 6** recite limitations similar to those recited by the rejection of **Claim 24**, and are therefore rejected under the same rationale.

Regarding **Claim 25**, Pong discloses:

**wherein said camera is arranged at a predetermined position and**

column 13 line 35-40, the camera is arranged at a predetermined position (i.e. at the refueling station)

**obtains image information of said customer at a predetermined timing.**

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Column 2 line 40-45, the system uses the facial recognition to confirm the individual's identity with the transponder. This occurs prior to the refueling of the vehicle (i.e. at a predetermined timing).

Regarding **Claim 26**, Pong discloses:

**wherein said position is suitable for obtaining image information of a face of said customer.**

Column 2 line 45-46, the camera obtains image information of the face of the customer since it is performing facial recognition, thus the position of the camera is suitable for obtaining image information from the customer's face.

Regarding **Claim 28**, Pong discloses:

**wherein said information of said item includes a name of said item.**

Column 7 line 1-5, information regarding items purchased by the customer includes names of several items, not only including fuel but other items purchased by the customer at the convenience store associated with the refueling station.

Regarding **Claim 30**, Pong discloses:

**further comprising a second input unit receiving an attribute of said customer,**

column 6 line 40-45, the attribute of the customer from the transponder tag is the customer's account number.



**wherein said first storing section further stores an attribute input via a second input unit and different from said attribute determined in said first processor.**

Column 7 line 12-13, the customer database can be updated to include changes in the customer information – see also column 8 line 40-45, the customer can input limited commands through the transponder.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pong US 6,237,647 (hereinafter **Pong**) in view of Kaneko US 6,332,139 (hereinafter **Kaneko**).

Regarding **Claim 27**, Pong teaches where the vision system above identifies a person based on their facial characteristics (i.e. facial recognition). Pong teaches that the entire customer interaction can be monitored by the system, so that personal reminders (i.e. specific to that individual) can be made. For example – col 5 line 9-12, Pong teaches an example where a person can be directed to pick up his dry cleaning.

However, Pong does not teach where the facial recognition system provides for a determination as per:

**wherein said attribute includes at least one of gender and age.**

However, it is old and well known in the art where facial recognition can provide for both gender and age, as taught by Kaneko.

Kaneko teaches that his system can provide for a determination of age and gender and that this information (i.e. age and gender) helps to determine a product suitable for a customer (column 33 line 25-30). Kaneko teaches that his system is suitable for monitoring the inside of a store to understand the situation in a store (column 2 line 11-13).

Pong and Kaneko both address the use of facial recognition systems in identifying customers to improve the customer's shopping experience, thus both Pong and Kaneko are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, where facial recognition is used to determine the identity of a customer, to include the teachings of Kaneko, where the facial information is used to determine demographic information and related product characteristics for that demographic information, because it would

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automatically provide product recommendations to that customer based on their age and gender, and thus improve their shopping experience.

7. **Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pong US 6,237,647 (hereinafter **Pong**).

Regarding **Claim 29**, Pong teaches the use of a facial recognition system in conjunction with a refueling system to provide an automated buying experience for a customer. Pong does not teach where the elements of his system are installed inside of a shop (i.e. a store) as per:

**wherein said camera, said first processor, said first input unit and said first storing section are installed inside said shop.**

However, it is old and well known in the art for a buying experience to be conducted entirely inside of a store.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, to include where his facial recognition and associated elements are installed inside of a store, because it would improve the shopping experience by automatically identifying the customer so that personal shopping recommendations could be made to that customer.

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8. **Claims 2, 3, 4, 31, 32-36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pong US 6,237,647 (hereinafter **Pong**) in view of Lu US 5,331,544 (hereinafter **Lu**).

Regarding **Claim 2**, Pong teaches:

**wherein said recording block further records a second preference of said customer,**

column 8 line 43-47, the transponder can record changes in the customer's preferences for that visit.

**said second preference being correlated with said data of said item obtained, said second preference being determined through a human perception.**

column 8 line 43-47, these changes can be input by the customer (i.e. determined through that customer's own human perception). The attribute is correlated with the customer's purchase in that if the customer is buying fuel, but wants a different fuel (e.g. different octane rating), the system correlates the change with what the customer wants to buy.

Pong does not teach where an attribute of a customer is determined by a human perception and where that attribute of the customer is correlated with the item obtained.

Lu teaches where an attribute of a customer is determined by a human perception and where that attribute of the customer is correlated with the item obtained. (column 9 line 25-30) The clerk determines that the signature of the customer (an attribute of the customer) is determined to be correct, according to what is on their store ID card. When the person makes the purchase using this check, the purchase is correlated with the person's identity. Note that Lu teaches using the store ID card to keep track of frequent shoppers (i.e. to correlate shoppers with their purchases) – see column 2 line 10-15).

Lu teaches where having an attribute based on the human perception of a customer's identity can prevent authorized use of a check card to prevent financial loss to the store (column 9 line 40-45).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step determining a customer attribute through a human perception, because it would provide a way to prevent financial loss to a store.

Regarding **Claim 31**, Pong teaches a facial recognition and purchasing recognition system to provide a system for complete monitoring and automation of a customer's buying experience. Pong does not teach:

**further comprising a second processor providing a data analysis based on said information of said item recorded and said attribute of said customer,**

**wherein said camera, said first processor, said first input unit and said first storing section are arranged inside said shop as an internal device and said second processor is arranged outside said shop and capable of communicating with said internal device.**

Lu teaches:

**further comprising a second processor providing a data analysis based on said information of said item recorded and said attribute of said customer,**

column 4 line 35-40, a central computer (i.e. a second processor) stores the market research data from a plurality of stores. –see also column 5 line 9-14, the data collected is used for market research, i.e. providing data analysis to understand shopper purchasing behavior.

**wherein said camera, said first processor, said first input unit and said first storing section are arranged inside said shop as an internal device and said second processor is arranged outside said shop and capable of communicating with said internal device**

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column 4 line 56-60, the camera, first processor, input unit and storing section are located inside the store –see also column 8 line 16-20.

Column 5 line 13-14, the central computer for collecting the data is connected to the individual stores (i.e. can communicate with them since it is collecting the data.

Lu teaches that his system provides a way to determine shopping frequency of customers at a store so that retailers can study shopping versus non shopping behaviour (column 1 line 38-42) and that this information is valuable for market research studies (column 2 line 11-15).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step of collecting the data in a central computer from several stores, because it would provide a way to conduct market research for a plurality of stores connected to the central computer so as to understand shopper purchasing behavior for all these connected stores.

**Claims 3 and 4** recite limitations similar to those addressed by the rejection of **Claim 31**, and are therefore rejected under the same rationale.

Regarding **Claims 32 and 34**, Pong teaches a facial recognition system to identify customers who are purchasing items from a store. Pong's system is connected to a database so that customer purchases can be billed to the customer (i.e. the customer visits that result in sales are counted so that accurate billing is made to the customer. Pong further teaches that his system is designed to provide complete monitoring and control of the customer shopping experience (column 5 line 13-15).

While Pong teaches obtaining facial information of a customer, as discussed above, Pong does not teach two different cameras to distinguish between customers who have made and purchase and those who have not made a purchase as per:

**Wherein said camera includes a first camera obtaining face information of a customer having entered said shop and a second camera obtaining image information of a customer having purchased an item;**

**said first processor receives said image signal generated by said first camera and an image signal generated by said second camera, to determine an attribute of a customer having an image indicated by an**



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**image signal generated by said first camera but not by any image signal generated by said second camera; and (as per claims 32 and 34)**

**said first storing section further stores information indicating that said customer is a non-purchaser, said information being added to said determined attribute of said customer (as per claim 32).**

**said first storing section further stores information indicating that said customer is a non-purchaser, said information being added to said determined attribute of said customer (as per claim 34).**

Lu teaches using cameras to distinguish between purchasing and non-purchasing customers as per:

**Wherein said camera includes a first camera obtaining face information of a customer having entered said shop and**

Column 9 line 54-59, shoppers who have entered the shop and are looking at a display have their face captured by a camera.

**a second camera obtaining image information of a customer having purchased an item;**

column 4 line 55-60, customers who are purchasing an item (i.e. at the checkout lane) have their facial images captured by a camera.

**said first processor receives said image signal generated by said first camera and an image signal generated by said second camera, to determine an attribute of a customer having an image indicated by an**

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**image signal generated by said first camera but not by any image signal generated by said second camera; and**

Column 9 line 54-59, customers who look at the display have their facial images captured for identification (i.e. their attribute, their ID is determined from the image captured by this second camera).

**said first storing section further stores information indicating that said customer**

**is a non-purchaser** (as per Claim 32, and)

**is a purchaser** (as per Claim 34),

**said information being added to said determined attribute of said customer.**

Column 3 line 35-40, the system is designed to correlate those customers looking at the display in the store with those who have made a purchase. The shoppers whose faces are imaged at the display are identified (i.e. their attribute, their identity is determined). Lu's system stores the information for both purchasers and non purchasers in order to determine the effectiveness of the in-store display towards customers making a purchase. Lu's system is correlating purchasing behavior of both purchasers and non purchases (column 3 line 41-44).

Lu teaches that his system provides a way to determine shopping frequency of customers at a store so that retailers can study shopping versus

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non shopping behaviour (column 1 line 38-42) and that this information is valuable for market research studies (column 2 line 11-15).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step of using two different camera systems to determine which customers are non-purchasers, as per Claim 32, and which customers are purchasers, as per Claim 34, because it would provide valuable information for retail marketing research studies to improve the purchase rate of customers.

Regarding **Claim 33**, Pong teaches the facial recognition system as discussed above and teaches a first camera, but does not teach:

**wherein said first camera is positioned in a vicinity of an entrance of said shop and**

**said second camera is positioned in a vicinity of a cash desk of said shop.**

Lu teaches a second camera positioned in a vicinity of a cash desk of said shop, as discussed above, to capture the facial image of customers who are

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purchasing items. Lu teaches a second camera that is positioned in vicinity of a store display.

Lu teaches that his system provides a way to determine shopping frequency of customers at a store so that retailers can study shopping versus non shopping behaviour (column 1 line 38-42) and that this information is valuable for market research studies (column 2 line 11-15).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step of using two different camera systems to determine which customers are non-purchasers, and which customers are purchasers because it would provide valuable information for retail marketing research studies to improve the purchase rate of customers.

While Lu does not explicitly teach a first camera in the vicinity of the store entrance, it is old and well known in the art of retail for displays to be positioned at the entrance of a store. This is done to entice customers to enter the shop.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the collective teachings of Pong and Lu, regarding using two different cameras to conduct market research to determine the effectiveness of store displays on purchase behavior, to include the step of positioning a camera in the vicinity of a store display in the vicinity of the entrance of a store, because it would provide an evaluation of how effective the store entrance displays were in enticing customers to make a purchase.

Regarding **Claim 35**, Pong teaches using a facial recognition system to validate a customer's identity when they are making a purchase. Pong does not teach counting a frequency of customer's visit to a store as per:

**a second recording block recording an image signal representative of a customer of a shop and a number of said customer's appearance in said shop, said image signal representative of said customer and said number being correlated with each other; and a third processor incrementing by one said number correlated with said image signal recorded in said second recording block and found to match said image signal generated by said camera.**

Lu teaches counting the frequency of a customer being in a shop as per:

**a second recording block recording an image signal representative of a customer of a shop and a number of said customer's appearance in said shop, said image signal representative of said customer and said number being correlated with each other; and a third processor**

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**incrementing by one said number correlated with said image signal recorded in said second recording block and found to match said image signal generated by said camera.**

Column 2 line 10-12, Lu teaches counting not only the frequency of shoppers who appear in a shop but also a temporal distribution of their visits.

Column 2 line 15-20, The shoppers appearance in a shop is correlated with that individual customer so that an analysis can be made of the customer's purchasing behavior. See also column 1 line 38-42, the visits of frequent shoppers (i.e. the number of their visits to a store) is used in an analysis of their average purchase amount.

Lu teaches that his system provides a way to determine shopping frequency of customers at a store so that retailers can study shopping versus non shopping behaviour (column 1 line 38-42) and that this information is valuable for market research studies (column 2 line 11-15).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step counting the frequency of

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shoppers visiting the store because it would provide valuable information for retail marketing research studies to understand the shopping behavior of customers.

Regarding **Claim 36**, Pong teaches a system that uses a facial recognition system to identify existing customers. Pong does not teach adding a previously unrecognized customer as per:

**wherein said third processor additionally records in said second recording block said image signal of said customer generated by said camera if said image signal of said customer generated by said camera is not present in said second recording block.**

Lu teaches recording images of customers that have not been previously recorded or recognized as per:

**wherein said third processor additionally records in said second recording block said image signal of said customer generated by said camera if said image signal of said customer generated by said camera is not present in said second recording block.**

Column 8 line 32-36, customers images may be used to populate a database if those customers appear in the store so that their images are captured by the camera. These images are used to populate a database in order to determine the frequency of shoppers' appearances and to correlate this with their purchases.

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Lu teaches that his system provides a way to determine shopping frequency of customers at a store so that retailers can study shopping versus non shopping behaviour (column 1 line 38-42) and that this information is valuable for market research studies (column 2 line 11-15).

Both Pong and Lu address the use of computerized facial recognition systems to improve the effectiveness of customer identification, thus both Pong and Lu are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Pong, regarding using facial recognition systems to identify customers, to include the step of populating a database of customer images to track the appearance and buying behavior of these customers because it would provide valuable information for retail marketing research studies to understand the shopping behavior of customers.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6990217 Moghaddam discloses a gender classification with vector machines.

JP 2000251077 A by Goon discloses a customer face recognition method.



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US 6386323 by Ramachandran discloses a cash dispensing method and system.

US 6522772 by Morrison discloses a self-checkout terminal using a biometric sensing device.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS

JGS 7-1-06

Romain Jeanty  
Primary Examiner  
Art Unit 3623